Amendments to the Specification:

Abstract of the Disclosure

~~Methods of filling empty areas in a layout simulation. In one embodiment, a method of simulating an integrated circuit layout is disclosed. The method comprises automatically identifying empty areas in a layout that can be filled and generating fill patterns to fill the empty areas.~~

A method of dealing with empty areas in a circuit layout is provided. In particular, the method provides a way of automatically identifying the empty areas in a circuit layout simulation produced from a schematic diagram. The method also fills in the areas using a recursive partition algorithm such the device of layout will comply with design rule checking requirements.